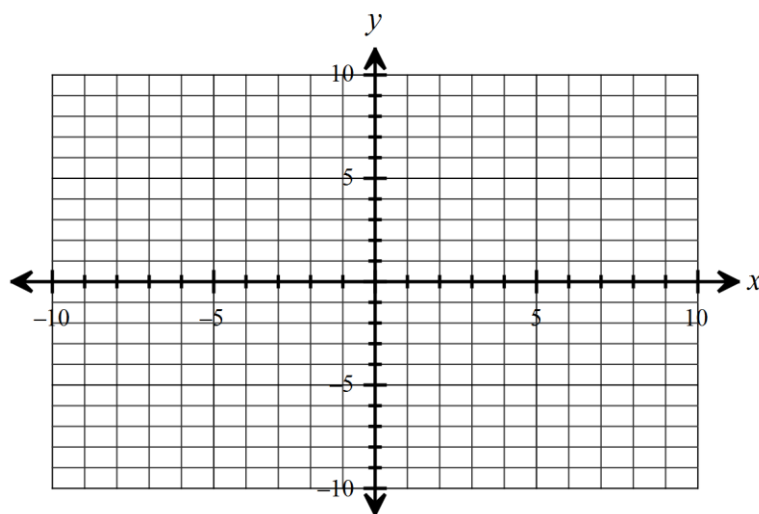


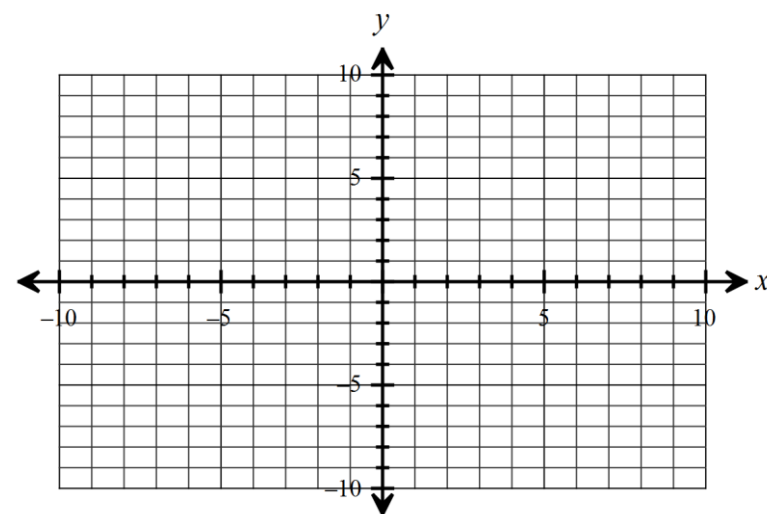
Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

Solve each system of equations by graphing. For each problem sketch each function  $f(x)$  and  $g(x)$  on one graph and label the intersecting points (solutions). Round to the nearest hundredth.

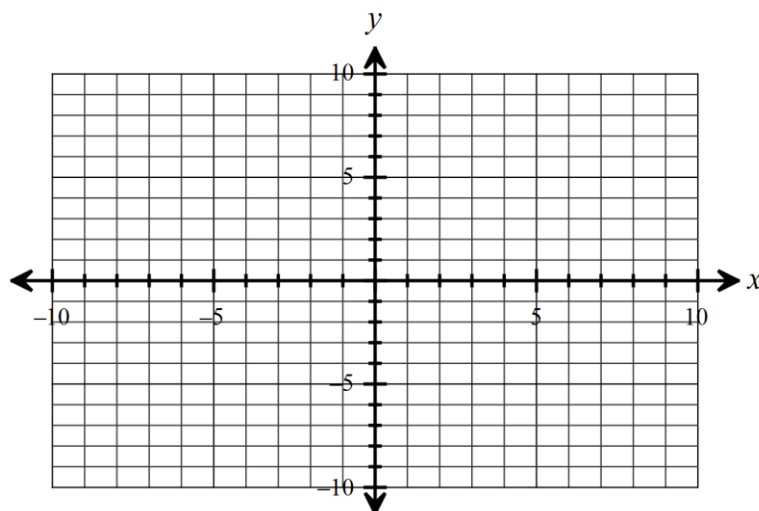
1.  $f(x) = -2x + 4$   
 $g(x) = x^2 + 3$



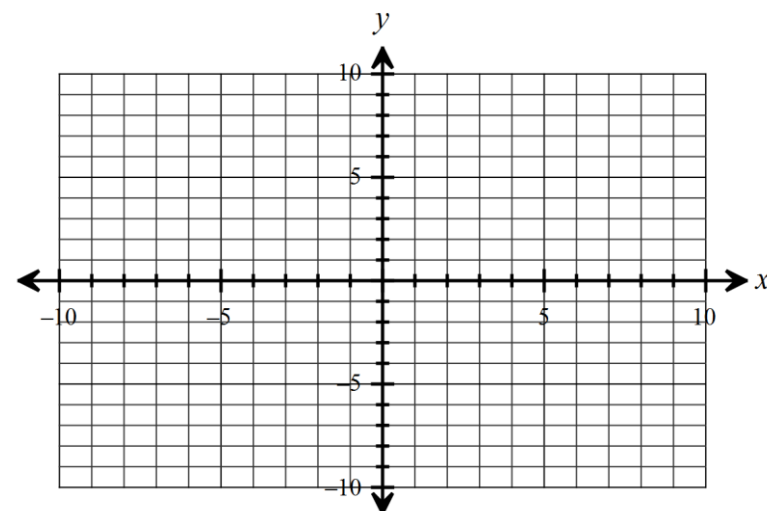
2.  $f(x) = \frac{1}{3}x - 2$   
 $g(x) = x^3 - 3x^2 - 4x$



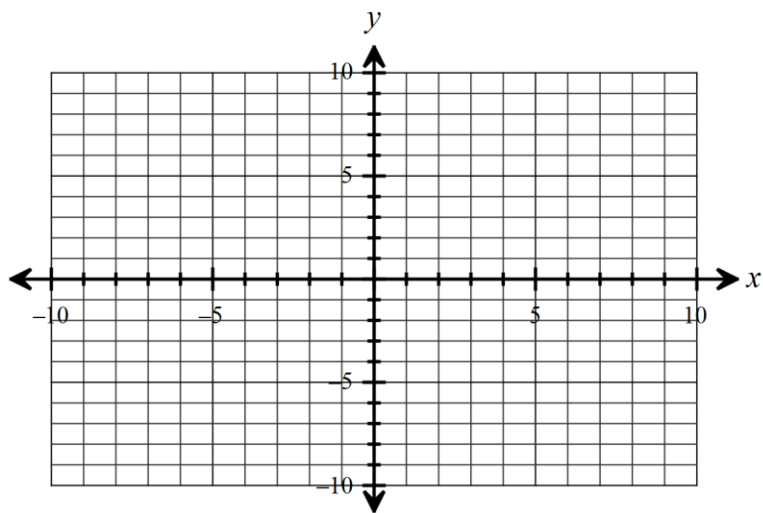
3.  $f(x) = -\frac{5}{2}x + 3$   
 $g(x) = \frac{x-1}{2x+1}$



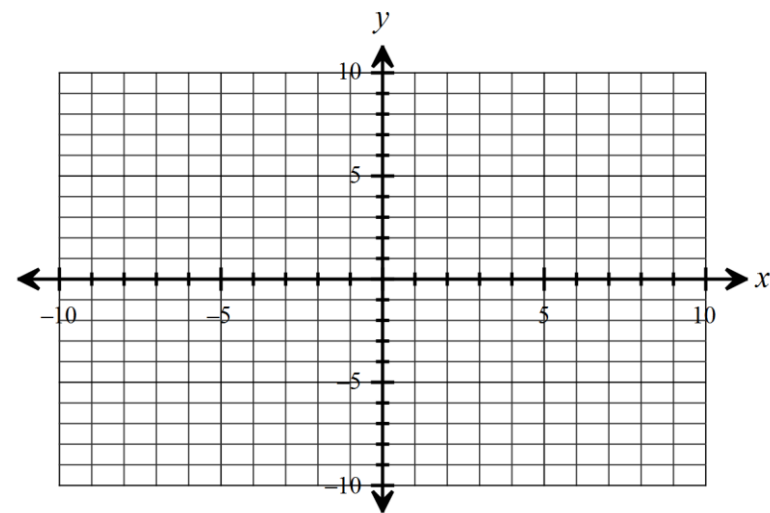
4.  $f(x) = -\frac{3}{4}x + 7$   
 $g(x) = -|x - 5| + 4$



5.  $f(x) = 4x - 3$   
 $g(x) = 3^{x-2} - 5$



6.  $f(x) = (x-5)^2 - 3$   
 $g(x) = \frac{1}{5}x^3 - \frac{12}{5}x^2 + 7x$



### Practice Review

Determine whether the infinite geometric series converges. If it does, find its sum.

7.  $4 + \frac{4}{3} + \frac{4}{9} + \frac{4}{27} + \dots$

8.  $\frac{1}{48} + \frac{1}{16} + \frac{3}{16} + \frac{9}{16} + \dots$

Factor the polynomials.

9.  $6x^2 - 108x + 480$

10.  $9m^2 + 6mn + n^2$

11.  $3x^4 + 375x$

12.  $15x^2 + 8x - 14$

**Find the average rate of change for each function on the specified interval.**

13.  $f(x) = 4x^2 + 12x + 9$  on  $[-3, 0]$

14.  $f(x) = \frac{x-7}{x^2+14x+40}$  on  $[-9, -5]$

15. Expand the binomial  $(2x-3y)^6$ .

16. Write the recursive and explicit formulas for the given sequence. Label the equations.

$-5, 10, -20, 40, \dots$

17. Solve the equation.

$$\frac{x}{x-2} + \frac{1}{x-1} = 1$$